

REMARKS

Reconsideration of the present application, as amended, is respectfully requested.

I. STATUS OF THE CLAIMS

Claims 1-9 are pending in this application. Claim 1 has been amended to further clarify that $n+q$ is an integer ranging from 1 to 10. Moreover, new claims 27-30 have been added.

Support for the above amendment and new claims can be found throughout the specification as originally filed. No new matter has been added by virtue of this amendment.

II. CLAIM OBJECTIONS

Claim 7 was objected to based upon the term "phosphorate" on the grounds that according to the Examiner this term is a verb and therefore defines a process and rather than a chemical compound. The Examiner also states that it is unclear whether the compound created by the "phosphorating process" is a phosphonate or a phosphate.

In response, Applicants respectfully disagree with the Examiners interpretation of the term "phosphorate" in claim 7. First of all, claim 7 is not directed to a method. Rather, claim 7 is clearly directed to a cleaning solution which includes a surfactant with a phosphorate chemical group. In spite of the dictionary definition provided by the Examiner in the instant Office Action, it is well established in the art, that a phosphorate is a chemical group, and it is also well established that phosphorates, phosphonates and phosphates are separate chemical groups from each other.

Therefore, for at least the reasons set forth above, removal of the above objection to claim 7 is requested.

III. 35 U.S.C. 102(b) and (e) REJECTIONS

Claims 1-9 have been rejected under 35 U.S.C. 102(b) as being anticipated by US Patent Application Publication No. US 20020115022 to Messick et al. ("the Messick publication").

Claims 1-9 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,517,106 to Hopkins ("the Hopkins patent").

Claims 1-6 and 8-9 have been rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. US 2004/0029395A1 to Zhang et al. ("the Zhang patent").

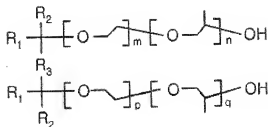
Claims 1-9 have been rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,506,806 to Taylor et al. ("the Taylor patent").

In response, Messick, Hopkins, Zhang and Taylor each fail to teach or suggest all of the features recited in claim 1 of the presently claimed invention.

Claim 1, as amended, reads as follows:

deionized water; and

a surfactant represented by the following formula:



wherein R_1 and R_3 are carbides or fluorocarbons having 1 to 20 carbons, R_2 is hydrogen or carbide, $m+p$ is an integer ranging from 1 to 30, $n+q$ is an integer ranging from 1 to 10.

Messick, Hopkins, Zhang and Taylor each at the very least fail to teach or suggest all of the features recited in amended claim 1.

For instance, Messick and Hopkins each describe different types of perfluorinated surfactants. Messick describes ammonium perfluoroalkyl sulfonates and ammonium perfluoroalkyl carboxylates. Moreover, Hopkins describes fluorinated alkylsulfonates. Zhang describes surfactants such as 2,4,5,9-tetramethyl-5-decyne-4,7 diol and 2,5,8,11-tetramethyl-6-dodecyne-5,8-diol. In addition, Taylor describes compositions which include a mixture of a hydrocarbon surfactant such as 2,4,5,9-tetramethyl-5-decyne-4,7 diol and a fluorocarbon surfactant such as a perfluoroalkyl ethoxylate.



However, Messick, Hopkins, Zhang and Taylor each at the very least fail to teach or suggest a cleaning solution which includes a surfactant including $[\text{CH}_2\text{CH}_2\text{O}]_m[\text{CH}(\text{CH}_3)\text{CH}_2\text{O}]_n$ and $[\text{CH}_2\text{CH}_2\text{O}]_p[\text{CH}(\text{CH}_3)\text{CH}_2\text{O}]_q$, as essentially recited in amended claim 1. In contrast, at best, the cited references may describe only ethoxide $[\text{CH}_2\text{CH}_2\text{O}]$ groups, but each reference at the very least fails to disclose two propoxide groups $[\text{CH}(\text{CH}_3)\text{CH}_2\text{O}]_n$ and $[\text{CH}(\text{CH}_3)\text{CH}_2\text{O}]_q$ and the specific relationship ($n+q$ is an integer ranging 1 to 10) between these two propoxide groups as required by amended claim 1. It is further noted that the surfactant recited in amended claim 1 which includes


the two propoxide groups can prevent collapse of photoresist patterns more effectively than conventional surfactants.

Accordingly, for at least the reasons set forth above, Messick, Hopkins, Zhang and Taylor each fail to anticipate claim 1. Thus, removal of the rejections to claim 1 is requested. Also, as claims 2-9 depend from and incorporate all of the limitations of claim 1, removal of the rejection to these independent claims is likewise requested. Moreover, as new claims 27 and 28 depend from claim 1, these dependent claims are also patentable over Messick, Hopkins, Zhang and Taylor for at least the reasons set forth above with regard to claim 1.

Furthermore, besides the reasons set forth above, dependent claim 7 is even further distinguishable over Messick, Hopkins, Zhang and Taylor because at the very least Messick, Hopkins, Zhang and Taylor are each completely silent about including ammonium perfluoroalkylethoxy phosphorate as part of their compositions as required by claim 7. Additionally, new claim 29 is patentable over Messick, Hopkins, Zhang and Taylor for at least the same reasons as set forth above with regard to claim 7.

Lastly, new claim 30 is also patentable over Messick, Hopkins, Zhang and Taylor because each of these references at the very least fails to teach or suggest the same R_3

substituent of R_3 selected from the group consisting of  ,  and

 as the surfactant having the formula of claim 30. As can be gleaned from the above, the surfactants described in Zhang and Taylor such as the 2,4,5,9-tetramethyl-5-decyne-4,7 diol and 2,5,8,11-tetramethyl-6-dodecyne-5,8-diol surfactants clearly cannot have the same R_3 substituent as the surfactant having the formula of claim 30.

IV. CONCLUSION:

In summary, applicant respectfully submits that the instant application is in condition for allowance. Early notice to that end is earnestly solicited.

If a telephone conference would be of assistance in furthering prosecution of the subject application, applicant requests that the undersigned be contacted at the number below.

Respectfully submitted,



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